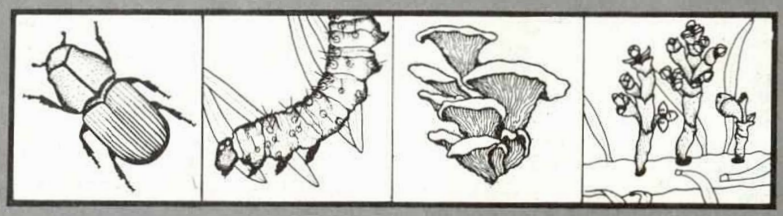
Forest Pest Management



Report 91-05

May 1991

NORTHERN REGION GYPSY MOTH CONDITIONS REPORT FOR 1990

by

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INTRODUCTION

The gypsy moth is an exotic insect pest responsible for defoliating over 7 million acres of forested lands in the eastern United States during 1990. Approximately 1.5 million acres of these lands were treated with insecticides to either eradicate or reduce the impacts of nuisance larvae and tree defoliation associated with this pest.

As a consequence of the threat of spread (a large infestation of approximately 20,000 acres currently exists in Utah) to the western U.S., the Northern Region, in cooperation with other State and Federal agencies, substantially increased it's survey and detection program in 1990. For each State in the Northern Region, and indeed across the whole of the western U.S., gypsy moth survey committees have been formed to coordinate trapping and, if necessary, eradication efforts. State survey committees consist of State forestry and agricultural agencies, the USDI Park Service, State Universities, the USDA Animal and Plant Health Inspection Service (APHIS), and the Forest Service.

In the Northern Region, areas surveyed for gypsy moth in 1990 included 13 National Forests, 3 National Parks, U.S. Army Corps of Engineers lands, U.S. Fish and Wildlife Service lands, and Bureau of Indian Affairs administered lands. In addition, most urban centers including cities, towns, military bases, and major road corridors (you might have seen these orange traps along roadsides) have also been surveyed by State forestry and agricultural agencies in cooperation with APHIS. The results of these survey efforts by State, and new developments associated with the gypsy moth in the Northern Region, are given below. Survey plans for Federal lands in 1991 are also included. Appendix A details survey results for 1990 on Federal lands located in the Northern Region. All trapping categories are considered survey, unless otherwise stated.

COOPERATIVE EFFORTS WITHIN THE REGION

Montana. The placement of 1,297 gypsy moth traps throughout the State in 1990 was a cooperative effort involving the Montana Department of State Lands, Forestry Division; the Montana Department of Agriculture; APHIS; the U.S. Park Service; and the Forest Service.

For the 1990 trapping season, a single male gypsy moth was caught in Great Falls, Montana. The moth was found in a "grid" detection trap located in an area where a single moth was caught in 1989. The immediate area surrounding the catch encompasses the City's fairgrounds, a trucking company complex, and a U-Haul dealer; all possible modes of entry. Malmstrom Air Force Base is also located nearby. The area will again be trapped in 1991 at a density of 16 traps per square mile in a 9-mile grid. No eradication efforts for gypsy moth are planned for the State in 1991.

The Montana Gypsy Moth Committee is made up of the above Federal and State agencies, plus a representative from Montana State University Cooperative Extension Service. For the 1991 trapping season, the committee recommends again surveying all areas of risk. The committee felt these efforts would ensure immediate identification of new gypsy moth introductions in the State, and thus would result in increased reaction time, if found. Federal agencies, including the Forest Service, involved in the survey effort in Montana during 1990, are being asked to continue to trap at the same intensity for 1991. Areas to be surveyed should include those trapped in 1990 and any other areas of risk that have since been identified.

In addition to the above survey and detection efforts, the committee has been meeting to formulate an interagency contingency plan of action against the gypsy moth in Montana. The purpose of the plan "is to outline the responsibilities and roles of those agencies concerned and to provide guidelines for implementing a plan of action against gypsy moth in the State of Montana, if the need arises." Furthermore, "the plan provides for managing, controlling and eradicating the moth to prevent aesthetic, nuisance, and economic damage to resources of the State of Montana."

North Dakota. In 1990, 319 gypsy moth pheromone traps were placed in the State of North Dakota. Survey and detection for gypsy moth was a cooperative effort involving State forestry and agricultural agencies, the Park Service, APHIS, the Forest Service, Bureau of Land Management, Bureau of Indian Affairs, and the Corps of Engineers.

For the 1990 trapping season, a single male gypsy moth was caught in the Cottonwood Campground of the Theodore Roosevelt National Park. This is the first time that gypsy moth has been detected in the State. In 1991, additional traps (delimitation survey) will be placed around the area of the moth catch. No eradication efforts for gypsy moth are planned for the State in 1991. The North Dakota gypsy moth committee will meet in March 1991 to plan this year's trapping efforts. However, Federal agencies, including the Forest Service, are being asked to trap at the same intensity as occurred in 1990. Areas to be surveyed should include all sites trapped in 1990, and any other areas of risk which since have been identified. The committee will also discuss the formulation of an interagency contingency plan of action for gypsy moth using the Montana model.

Idaho. Approximately 9,300 gypsy moth pheromone traps were placed throughout the State in 1990. The placement of traps was a cooperative effort involving State and Federal agencies. For the Northern Region, Forest Service personnel placed survey traps at high-risk campgrounds on Federal lands. All other traps were placed by personnel from the Idaho Department of Lands. In the southern part of the State, the survey was conducted by the State Department of Agriculture and Forest Service personnel from the Intermountain Region, Boise Field Office.

For the second consecutive year, the Northern Region participated in an Idaho Department of Lands administered eradication project against the gypsy moth. Four separate areas, one in Coeur d'Alene and three in Sandpoint, were treated with three applications of the bio-insecticide *Bacillus thuringiensis* (Bt), followed up with a mass trapping effort in an attempt to eradicate the small populations still present. Two of the areas, one in Coeur d'Alene and one in Sandpoint, had residual populations from 1989. In the other two treatment blocks, moths were first detected in the 1989 pheromone detection surveys. A total of 1,060 acres were treated with both the pesticide and mass trapping. Traps were placed at a total of 3,268 sites. There were no incidences nor problems associated with these efforts.

An extensive public information and involvement effort was implemented before, during, and after the eradication project. An environmental analysis was prepared and distributed to individuals, environmental interest groups, State, Federal, and local agencies. Public meetings were held in Coeur d'Alene and Sandpoint. Individual contacts were made with families living within the treatment zones, and news announcements were made through television, radio and newspapers. Telephone numbers were advertised where the public could call for information. Contact via the telephone was also made to citizens with special concerns before each treatment.

Total costs for the eradication effort in 1990 were $226,217. No moths were detected in treatment areas, but three moths were caught in a single trap located in the small community of Dover, Idaho, approximately 2 miles west of Sandpoint. The lack of moths found in treatment blocks indicates that the eradication program was probably successful. The Idaho Department of Lands does not anticipate a need for additional spray treatments in 1991. However, mass trapping and detection trapping will continue in 1991.

Representatives from the State Departments of Lands and Agriculture, the Intermountain and Northern Regions of the Forest Service, the Animal and Plant Health Inspection Service, and the University of Idaho are participating in a State-wide gypsy moth advisory committee. The committee meets twice yearly to coordinate surveys, review plans and accomplishments.

Yellowstone National Park. One hundred and eighteen pheromone traps, in 59 separate locations, were placed in Yellowstone National Park in 1990. The Park and Forest Service cooperated in their placement. One gypsy moth was caught in the Madison Junction Campground. A delimitation effort to find any additional moths will be conducted in the Campground in the spring of 1991. No moths were found in the delimitation effort conducted in the the Bridge Bay Campground area during the spring of 1990.

Northern Region Efforts. For 1990, the Forest Service increased it's survey and detection efforts significantly over that of previous years. Cooperation from Forests, Districts, Parks, and Reservations was exceptional. A trap return rate of over 90 percent was achieved. And, although only two moths were caught, results would indicate that no established populations of gypsy moth were present on Federally administered land in the Region. For 1991, the same level of trapping on Federal lands is planned as that which occurred in 1990. Going to an alternate year trapping program is being considered, if the situation in the eastern U.S. and Utah improves.

On the educational side, a gypsy moth display is available for those cooperators who want to increase public awareness about the gypsy moth threat to western forests. The display is approximately 8 feet high, 10 feet long, 2 feet wide, and can be shipped via UPS. In addition, the Region has produced a video tape which outlines the biology, history, and potential threat to western forests posed by the gypsy moth. The video is approximately 18 minutes long, and will be made available to all cooperators who are interested in using it as a training aid or in public education.

This year the Northern Region, in cooperation with States, has started implementation of a method (originally developed by the Rocky Mountain Region) to increase trapping efficiency and reduce the possibility of duplication of trapping efforts. The Forest Service is in the process of generating a Region-wide map, using GIS technology, which would identify all trap locations by their latitude/longitude coordinates. Once generated, the data base and maps created would then be shared with Forests and other cooperators.

APPENDIX A
GYPSY MOTH TRAP LOCATIONS AND RESULTS FOR 1990 ON FEDERAL LANDS IN THE NORTHERN REGION

NATIONAL FORESTS *National Forest Ranger District*	*Site Name*	*Latitude/longitude or Township/Range/Sec.*		*Moths Caught*
Beaverhead NF				
Dillon	Grasshopper C	452705	1130705	0
Wisdom	May Creek C	453910	1134648	0
	Twin Lakes C	452442	1134110	0
	Miner Lake C	451927	1133439	0
Sheridan	Mill Creek C	452839	1120359	0
Madison	Wade Lake C	444828	1113354	0
	Madison River C	445242	1113412	0
	Potosi C	453424	1115448	0
	Cliff Lake C	NA	NA	0
Bitterroot NF	Charles Waters Mem. C	NA	NA	0
	Lake Como P	NA	NA	0
	Rombo Camp C	NA	NA	0
Clearwater NF				
Palouse	Laird Park C	465638	1164045	0
North Fork	Washington Creek C	464207	1153315	0
	Aquarius C	465033	1153645	0
	Kelly Forks C	464310	1151510	0
Lochsa	Wilderness Gateway C	462010	1151846	0
Powell	Powell C	463028	1144110	0
Custer NF				
Beartooth	Greenough Lake C	450313	1092455	0
	Parkside C	450320	1092416	0
	Woodbine C	452130	1095330	0
	Basin C	450942	1092318	0
	Emerald Lake C	451515	1094155	0
	Pine Grove C	451645	1093815	0
	East Rosebud C	NA	NA	0
	West Rosebud C	NA	NA	0
Medora	Buffalo Gap C	465710	1034030	0
	Limber Pine C	NA	NA	LOST

NATIONAL FORESTS ***National Forest Ranger District***	***Site Name***	***Latitude/longitude or Township/Range/Sec.***		***Moths Caught***
Deerlodge NF				
Deerlodge	Racetrack C	461650	1125615	0
Jefferson	Homestake Lake P	455519	1122423	NA
	Delmoe Lake P	455914	1122108	NA
Philipsburg	Lodgepole C	461240	1131625	0
	Piney C	461140	1131750	0
	Philipsburg Bay C	461217	1131753	0
	Copper Creek C	460423	1133225	0
	East Fork C	460810	1132315	0
	Spillway C	460740	1132255	0
Butte	Sheepshead P	460045	1121545	0
	Lowland C	NA	NA	0
Flathead NF				
Swan Lake	Holland Lake C	472650	1133700	0
	Swan Lake Annex C	475610	1135115	0
Spotted Bear	Spotted Bear C	475535	1133140	0
Hungry Horse	Lost Johnny Point C	481840	1135745	0
Tally Lake	Tally Lake C	482445	1143500	0
Gallatin NF				
Big Timber	Hicks Park C	451750	1101420	0
	Falls Creek C	452935	1101315	0
	West Boulder C	453250	1101825	NT
	Halfmoon C	460225	1101415	NT
	Aspen Grove C	452720	1101145	0
	Natural Bridge	NA	NA	0
	Main Boulder Station	NA	NA	0
Gardiner	Soda Butte C	450128	1095452	0
	Colter C	NA	NA	0
	Clarks Fork Trail P	NA	NA	0
Bozeman	Red Cliff C	451023	1111436	0
	Greek Creek C	NA	NA	0
Hebgen Lake	Rainbow Point C	444645	1111035	NT
	Cherry Creek C	444450	1111530	NT
	Bakers Hole C	444220	1110600	0
	Beaver Creek C	445120	1112240	NT
	Cabin Creek C	445220	1112030	0
	Lonesomehurst Camp P	474411	1111355	NT
	Pine Creek C	NA	NA	0
Helena NF				
Townsend	Skidway C	462107	1110535	0
	Deep Creek C	NA	NA	0
Lincoln	Copper Creek C	470244	1123710	0
	Aspen Grove C	465833	1123208	0
Helena	Cromwell-Dixon C	NA	NA	0

NATIONAL FORESTS ***National Forest Ranger District***	***Site Name***	***Latitude/longitude or Township/Range/Sec.***		***Moths Caught***
Idaho Panhandle NF's				
Wallace	Kit Price C	474420	1160020	0
	Big Hank C	474935	1160610	0
	Shoshone Park P	472752	1154336	0
Avery	Conrad Crossing C	470930	1152455	0
	Fly Flat C	470647	1152316	0
	Spruce Tree C	470218	1152047	CLOSED NOT TRAPPED
	Turner Flat C	470412	1153915	0
	Tin Can Flat C	470347	1153710	0
Fernan	Rainy Hill C	472822	1163508	0
	Beauty Creek C	473622	1164002	0
	Bumblebee C	473806	1161656	0
St. Maries	Shadowy St. Joe C	471916	1162400	0
Sandpoint	Samowen C	481320	1161725	0
	Garfield Bay C	481120	1162605	NT
Bonners Ferry	Smith Lake C	484630	1161600	0
	Robinson Lake C	485810	1161252	0
	Copper Creek C	485905	1161005	0
	Meadow Creek C	484910	1160850	0
Priest Lake	Beaver Creek Recreation Site T	484405	1165130	0
	Luby Bay C	483256	1165530	0
	Reeder Bay C	483727	1165335	0
	Silver C	483349	1165357	0
Kootenai NF				
Rexford	Peck Gulch C	484505	1151730	0
	Rexford Bench C	485410	1150950	0
Troy	Dorr Skeels C	481604	1155104	0
	Yaak River C	483340	1155820	0
	Bad Medicine C	481310	1155120	0
	Ross Creek P	481220	1155500	0
Fisher River	McGillivray C	482921	1151753	0
Cabinet	Bull River C	480155	1155037	0

NATIONAL FORESTS *National Forest Ranger District*	*Site Name*	*Latitude/longitude or Township/Range/Sec.*		*Moths Caught*
Lewis and Clark NF				
Judith	Dry Wolf C	465850	1103055	0
	Thain Creek C	472830	1103500	0
	Crystal Lake C	464745	1093045	0
Kings Hill	Moose Creek C	465045	1105145	0
	Many Pines C	465400	1104122	0
	Jumping Creek C	464555	1104645	0
	Grasshopper C	463240	1104445	0
	Kings Hill C	465030	1104145	0
	Aspen C	465935	104603	0
Rocky Mtn.	Summit C	NA	NA	0
	Pike Creek Rd.	NA	NA	0
Lolo NF				
Missoula	Pattee Canyon P	464933	1135530	0
	Lee Creek C	NA	NA	0
	Lewis and Clark C	NA	NA	0
	Rock Creek R			
	Valley of the Moon	NA	NA	0
	Norton Camp	NA	NA	0
	Welcome Foot Bridge	NA	NA	0
	Siria Camp	NA	NA	0
Ninemile	Grand Menard P	470452	1142353	0
	Ninemile Ranger St.	NA	NA	0
Plains/	Cascade C	471810	1144920	0
Thompson Falls	Finley Falss Rec A	NA	NA	0
Seeley Lake	Seeley Lake C	471130	1133103	NA
	Big Larch C	471104	1132918	NA
	River Point C	471112	1133045	NA
Superior	Trout Creek C	470700	1145200	0
	Quartz Flat C	470451	1144607	0
	Sloway C	471358	1150122	0
Nezperce NF				
SO	Grangeville	NA	NA	0
Selway	O'Hara Bar C	463008	1153030	0
	Twenty Mile Bar C	460435	1152220	0
	Johnson Bar C	460610	1153330	0
	Glover Creek C	460430	1152140	0
S. F. Clearwater	River R	NA	NA	0

C = Campground
P = Picnic Ground
T = Trailhead
R = Recreation site
NT = Not trapped in 1990
NA = Information not available

NATIONAL PARKS ***Yellowstone National Park***	***Latitude***	***Longitude***	***Moths Caught***
Campgrounds			
Mammoth	445842	1104142	0
Slough Creek	445650	1101818	0
Pebble Creek	445503	1100648	0
Tower Fall	445312	1102321	0
Norris	444426	1104128	0
Canyon Village	444412	1102853	0
Fishing Bridge RV Pk.	443351	1102154	0
Bridge Bay	443221	1102550	0
Madison Junction	443841	1105153	1
Grant Village	442345	1103400	0
Lewis Lake	441637	1103744	0
Indian Creek	445301	1104414	0
Fishing Bridge	443331	1102205	0
Major Developments			
Grant Village	442319	1103343	0
Old Faithful	442708	1104926	0
West Yellowstone	443943	1110600	0
Lake Lodge	443302	1102348	0
Canyon	444354	1102926	0
Roosevelt	445443	1102503	0
Mammoth	445815	1104207	0
Gardiner (treeless)	450145	1104221	0
Major Attractions			
Norris Geyser Basin	444354	1104211	0
Tower Fall	445344	1102306	0
Inspiration Point	444338	1102808	0
Artist Point	444313	1102830	0
Fountain Paint Pots	443300	1104828	0
West Thumb	442451	1103423	0
Fishing Bridge	443347	1102240	0
Midway Geyser Basin	443053	1104949	0
Mud Volcano	443724	1102558	0
Bridge Bay Marina	443147	1102608	0

NATIONAL PARKS Yellowstone National Park	Latitude	Longitude	Moths Caught
Major Trailheads			
Snake River	440815	1103957	0
Delacey	442645	1104201	0
Heart Lake	441910	1103551	0
Clear Creek	443020	1101516	0
Pelican Valley	443341	1101928	0
Slough Creek	445627	1101818	0
Hellroaring	445652	1102700	0
Soda Butte	445206	1100955	0
Lamar	445209	1101119	0
Blacktail	445718	1103529	0
Mount Washburn	444939	1102633	0
Riddle Divide	442129	1103446	0
Lone Star	442642	1104818	0
Bechler River RS	440901	1110243	0
Smaller Significant Features/Trailheads			
Government Area/Hamilton Stores HQ at West Entrance	443918	1100530	0
Bighorn Pass T	445541	1110309	0
Fawn Pass T	445711	1110316	0
Obsidian Cliff	444918	1104351	0
Glen Creek T	445554	1104339	0
Gibbon Falls	443915	1104616	0
Biscuit Basin	442843	1105107	0
Black Sand Basin	442734	1105048	0
Lake Butte	443035	1101618	0
Seven Mile T	443948	1105749	0
The Thunderer T	445511	1100539	0
Nez Perce/Porcupine	443411	1104831	0
Winter Creek T	445022	1104407	0
Cave Falls	440846	1105946	0

Subject: Special delimitation effort - 1990
State: Wyoming
County: Teton
Location: Bridge Bay Campground,
Yellowstone National Park

Trap No.	*Latitude*	*Longitude*	*Moths Caught*
1	443147	1102615	0
2	443154	1102630	0
3	443201	1102645	0
4	443208	1102700	0
5	443219	1102650	0
6	443231	1102640	0
7	443242	1102630	0
8	443246	1102604	0
9	443234	1102614	0
10	443223	1102624	0
11	443212	1102634	0
12	443205	1102619	0
13	443216	1102609	0
14	443227	1102559	0
15	443238	1102549	0
16	443250	1102539	0
17	443243	1102524	0
18	443231	1102534	0
19	443220	1102544	0
20	443209	1102554	0
21	443158	1102604	0

Glacier National Park	*Latitude*	*Longitude*	*Moths Caught*
Campgrounds			
Apgar	483122	1135852	0
Fishcreek	483253	1135902	0
Sprague Creek	483616	1135246	0
Avalanche	484035	1134859	0
Bowman	484942	1141211	0
Swiftcurrent	484744	1134036	0
Rising Sun	484141	1133118	0
St. Marys	484513	1132633	0
Two Medicine	482931	1132144	0

Glacier National Park	Latitude	Longitude	Moths Caught
Major Developments			
Lake McDonald Lodge	483655	1135227	0
Poleridge Rest Stop	484655	1141645	0
St. Marys Rest Stop	484416	1132543	0
West Glacier Park Hq.	483008	1135836	0
Major Attractions			
Packers Roost (Loop)	484453	1134722	0
Bellyriver Trail Head	485554	1134249	0
Swiftgorge (St. Marys)	484044	1133557	0
Running Rabbit Mt.	481538	1133429	0

Theodore Roosevelt National Park	Latitude	Longitude	Moths Caught
Campgrounds			
Cottonwood Camp	NA	NA	1
Painted Canyon	NA	NA	0
Major Developments			
Visitors Center	NA	NA	0
Major Attractions			
Fort Union Trading Post	NA	NA	0
Knife River Unit	NA	NA	0
Mckenzie Co.	NA	NA	0

U.S. Army Corps of Engineers	Latitude	Longitude	Moths Caught
Little Missouri Rec. Area	NA	NA	0
Corps Downstream Campground	NA	NA	0
Fort Stevenson State Park	NA	NA	0
Lewis and Clark S.P.	NA	NA	0

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Sully's Hill National Game Preserve	Latitude	Longitude	Moths Caught
West Area	NA	NA	0
Central Area	NA	NA	0
Northeast Area	NA	NA	0
East Area	NA	NA	0
Sweetwater Lake	NA	NA	0
Picnic area	NA	NA	0

Upper Souris National Wildlife Refuge	Latitude	Longitude	Moths Caught
Manager's Residence	NA	NA	0
Recreation Area	NA	NA	0
Outlet Recreation Area	NA	NA	0
Leafy Spurge Experimental Area	NA	NA	0

BIA, Standing Rock Agency, Fort Yates	Latitude	Longitude	Moths Caught
Cannonball Monument	NA	NA	0
Sitting Bull Burial Site	NA	NA	0

BIA, Flathead Agency	Latitude	Longitude	Moths Caught
Mission Reservoir	NA	NA	0

BIA, Fort Totten Agency	Latitude	Longitude	Moths Caught
Agency Headquarters	NA	NA	0

BIA, Fort Berthold Agency	Latitude	Longitude	Moths Caught
New Town	NA	NA	0
Pershall	NA	NA	0

BIA, Turtle Mtn.	Latitude	Longitude	Moths Caught
Agency lands	NA	NA	0